

# 1899 to 1927

Aug 1894<sup>6</sup> to

ORIGINAL LOG BOOK OF THE "FISH HAWK"

UNITED STATES FISH COMMISSION

STATION NUMBERS

Numbers 1899 to 1927

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1899

Date, Sept 1<sup>st</sup> 1894

Time of day, 12 40 PM, of tide, Ebb

Locality, Gunyard's Sound

Exact position, Ship Cove to Cuth, N. 88° 55'

Cuth, N. 88° 55' to Gay Head 93° 11'

Depth, 10 fathoms

Nature of bottom, sandy with blk specks

Dredging instrument used, 1/2 Beam Trawl

Direction of drift, : distance,

Temperature of air, 70 therm. No.,

" of surface water, 67

" at depth of fathoms,

" at bottom, 63 7 3

Density at surface, 1023.6 temp., 67

" at depth of fathoms,

" at bottom,

Number of salinometer, 7052

Barometer reading, 30.09

State of sky, Clear

Direction of wind, W S W ; force, 1

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel, "Fish Hawk"

Service to which attached, U S F Commission

Name and rank of commanding officer, Robt Platt

Lieut. U.S.N.

Name and position of observer, O. H. Cleveland

Matr. U.S.N.

NOTES RELATING TO STATION NO. 1899

Obtained about  $\frac{1}{2}$  bushel of  
material consisting of Skate  
Hound Starfish - Crabs  
Sand dollars. Hermit crabs  
Keep & sea urchins

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *1900*  
 Date, *Sept 1<sup>st</sup> 1894*  
 Time of day, *4:10 PM* : of tide, *Ebb*  
 Locality, *Vineyard Sound*  
 Exact position, *Nobscada Lgh to Cuttyhunk*  
*Lgt 114° 26' Cuttyhunk to Gay Head*  
 Depth, *16 fathoms* *119° 10'*  
 Nature of bottom, *Sand & shells*  
 Dredging instrument used, *7 ft Beam Trawl*  
 Direction of drift, : distance.  
 Temperature of air, *73* therm. No.,  
 " of surface water, *66* "  
 " at depth of fathoms, "  
 " at bottom, *66 7/8* "  
 Density at surface, *1.0246* temp., *66*  
 " at depth of fathoms, "  
 " at bottom, "  
 Number of salinometer, *7052*  
 Barometer reading, *30.09*  
 State of sky, *Clear*  
 Direction of wind, *W SW* : force, *1*  
 Rain,  
 Direction of surface current, : force,  
 " of bottom " : force,  
 Name of vessel, *Fish Hawk*  
 Service to which attached, *U.S. Com.*  
 Name and rank of commanding officer, *Robt. Pierce*  
*Lieut. U.S.N.*  
 Name and position of observer, *A. H. Chandler*  
*Master*

NOTES RELATING TO STATION NO. 1690

Obtained, Sea Urchins 1. Star Fish  
Rock Crabs, Hermit Crabs Dead  
Shells, a few Skadis & Flounders  
A number of Peckers,

## RECORD OF DREDGING.

## TEMPERATURE AND DENSITY.

Station No. *1901.*  
 Date, *Sept 6<sup>th</sup> 1894*  
 Time of day, *11.15 a.m.*; of tide, *Flood*  
 Locality, *Barnards Key Mass.*  
 Exact position, *Mouth of Long Neck, S by N 1/2 N.*  
*North end Hog Island Pt S.E. by E 1/4 E.*  
 Depth, *5 ft 2 ft*  
 Nature of bottom, *Coarse Sand*  
 Dredging instrument used, *7 ft Beam Trawl.*  
 Direction of drift, : distance.  
 Temperature of air, *71* therm. No.,  
 " of surface water, *69* "  
 " at depth of fathoms, "  
 " at bottom, *69* "  
 Density at surface, *1023.0* temp., *69*  
 " at depth of fathoms, "  
 " at bottom, "  
 Number of salinometer, *7052*  
 Barometer reading, *30.04*  
 State of sky, *Heavy*  
 Direction of wind, *N.W. E.*; force, *4*  
 Rain,  
 Direction of surface current, : force,  
 " of bottom " : force,  
 Name of vessel, *Fish Hawk*  
 Service to which attached, *U.S. F. C.*  
 Name and rank of commanding officer, *R. Platt*  
*Lieut. U.S.N.*  
 Name and position of observer,  
*James H. Smith*  
*Master U.S.N.*

NOTES RELATING TO STATION NO. 1901

Starfishes Several Sponges, and  
Sea weeds, Brans, & Scallops

## RECORD OF DREDGING,

## TEMPERATURE AND DENSITY.

Station No. *1902*  
 Date, *Sept 6<sup>th</sup> 1894*  
 Time of day, *10.35 am* : of tide, *Flood*  
 Locality, *Barnardo Bay Mass.*  
 Exact position, *Tangent N. E. by E. 47.05'*  
*To Hong Kook Lgh, Hong Kook to Reid Is Lgh 36.17*  
 Depth, *5 fms*  
 Nature of bottom, *fm. S. Rk Sh. B. mud*  
 Dredging instrument used, *7 ft Beam Trawl*  
 Direction of drift, : distance,  
 Temperature of air, *69.5* therm. No.,  
 " of surface water, ..  
 " at depth of fathoms, ..  
 " at bottom, *68* ..  
 Density at surface, *1023.0* temp., *69*  
 " at depth of fathoms, ..  
 " at bottom, ..  
 Number of salinometer, *7052*  
 Barometer reading, *30.04*  
 State of sky, *Heavy*  
 Direction of wind, *ENE* : force, *2*  
 Rain,  
 Direction of surface current, : force,  
 " of bottom " : force,  
 Name of vessel, *Fish Hawk*  
 Service to which attached, *U.S. F C*  
 Name and rank of commanding officer, *Robert Platt*  
*Lieut U.S. N.*  
 Name and position of observer,

*Geo A Smith*  
*Master U.S.N.*



NOTES RELATING TO STATION NO. 1902

*A small quantity of Finger Sponge  
Brass line boat, and Sea weeds,*

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1903.

Date, Sept 6.

Time of day, 11.00. a.m.: of tide, Flood.

Locality, Barnards Bay Mass.

Exact position, W. end Hog Is to Long Neck. Lgh 48.00' L

North end of Long Neck to Hog Is 118.33. R.

Depth, 7 fms 3 ft

Nature of bottom, Buttrick's Bay Shells.

Dredging instrument used, 7 ft Beam Trawl.

Direction of drift, ; distance.

Temperature of air, 70 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1023 temp., 68

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7052

Barometer reading, 30.04

State of sky, Bary

Direction of wind, E. N. E. ; force, 2

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, U. S. F. C.,

Name and rank of commanding officer, R. Platt

Lieut. U. S. N.

Name and position of observer,

Jas A. Smith  
Master U. S. N.

NOTES RELATING TO STATION NO. 1903

3 Spider Crabs 1 Scylla, small Shrimps  
Broken Shells and Sea weed,

## RECORD OF DREDGING.

## TEMPERATURE AND DENSITY.

Station No. *1904*  
 Date, *Sept 7 1898*  
 Time of day, *9.40 a.m.*; of tide, *1/2 flood*  
 Locality, *Kennedy's Bay, N.W.*  
 Exact position, *1/2 m. S.W. of Light Station, 1/2 m. S.W. of Light Station, 1/2 m. S.W. of Light Station*  
 Depth, *4 1/2 fms.*  
 Nature of bottom, *Fine sand*  
 Dredging instrument used, *5 ft. beam trawl*  
 Direction of drift, ; distance,  
 Temperature of air, *68* therm. No.,  
 " of surface water, "  
 " at depth of fathoms, "  
 " at bottom, *69* *71.8 5.5000*  
 Density at surface, *1.02115* temp., *69*  
 " at depth of fathoms, "  
 " at bottom, "  
 Number of salinometer, *7200*  
 Barometer reading, *30.4*  
 State of sky, *B, c.*  
 Direction of wind, *S.W.*; force, *2*  
 Rain,  
 Direction of surface current, ; force,  
 " of bottom " ; force,  
 Name of vessel, *U.S. Fish Com. Steamer*  
 Service to which attached, *U.S. Fish Com.*  
 Name and rank of commanding officer, *Lt. J. L. Smith*  
 Name and position of observer, *Wm. H. Smith*

NOTES RELATING TO STATION NO. 17

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *1905*  
 Date, *Sept 7<sup>th</sup> 1899*  
 Time of day, *10:00 a.m.*; of tide, *1/4 ebb*  
 Locality, *Harbor of San Francisco*  
 Exact position, *Lat. 37° 46' N. Long. 122° 32' W.*  
*7 miles S. of San Francisco*  
 Depth, *6 1/2 fms.*  
 Nature of bottom, *fine sand & shells*  
 Dredging instrument used, *1/4 lb. dredge*  
 Direction of drift, \_\_\_\_\_; distance, \_\_\_\_\_  
 Temperature of air, *68*, therm. No., \_\_\_\_\_  
 " of surface water, \_\_\_\_\_  
 " at depth of \_\_\_\_\_ fathoms, \_\_\_\_\_  
 " at bottom, *68*, " *50303*  
 Density at surface, *102.55*, temp., *68.5*  
 " at depth of \_\_\_\_\_ fathoms, \_\_\_\_\_  
 " at bottom, \_\_\_\_\_  
 Number of salinometer, *1215*  
 Barometer reading, *30.4*  
 State of sky, *Partly*  
 Direction of wind, *S.W.*; force, *2*  
 Rain, *26.*  
 Direction of surface current, \_\_\_\_\_; force, \_\_\_\_\_  
 " of bottom " \_\_\_\_\_; force, \_\_\_\_\_  
 Name of vessel, \_\_\_\_\_  
 Service to which attached, \_\_\_\_\_  
 Name and rank of commanding officer, *John D. Smith*  
 Name and position of observer, *James M. Smith*

NOTES RELATING TO STATION NO.

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *1906.*

Date, *July 11, 1881.*

Time of day, *11.40 a.m.*; of tide, *1/2 Flood & ebb*

Locality, *off Cape Cod*

Exact position, *lat. 41° 15' N. long. 70° 15' W.*

Depth, *12 fms.*

Nature of bottom, *fine sand*

Dredging instrument used, *Hydrog. dredge*

Direction of drift, *drift*; distance, *drift*

Temperature of air, *75* therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, *65* "50000

Density at surface, *1.02165* temp., *65.5*

" at depth of fathoms, "

" at bottom, "

Number of salinometer, *1000*

Barometer reading, *30.0*

State of sky, *clear*

Direction of wind, *N. E.*; force, *1*

Rain,

Direction of surface current, ; force,

" of bottom " : force,

Name of vessel, *Fish Hawk*

Service to which attached, *U. S. F.*

Name and rank of commanding officer, *Lt. J. H. Brown*

Name and position of observer,



NOTES RELATING TO STATION NO. 1906.

## RECORD OF DREDGING,

## TEMPERATURE AND DENSITY.

Station No. *1917*  
 Date, *Sept 2 1894*  
 Time of day, *12.05 P.M.* of tide, *1/2*  
 Locality, *off Cape Cod*  
 Exact position, *North of Cape Cod*  
*Richmond 9 fathoms deep*  
 Depth, *10 fms.*  
 Nature of bottom, *fine sand*  
 Dredging instrument used,  *dredge*  
 Direction of drift, ; distance,  
 Temperature of air, *72* therm. No.,  
 " of surface water, "  
 " at depth of fathoms, "  
 " at bottom, "  
 Density at surface, *1.02414* temp., *65*,  
 " at depth of fathoms, "  
 " at bottom, "  
 Number of salinometer, *5205*  
 Barometer reading, *30.07*  
 State of sky, *Partly*  
 Direction of wind, *S. E.* ; force, *1*  
 Rain,  
 Direction of surface current, ; force,  
 " of bottom " ; force,  
 Name of vessel, *U.S.S. Albatross*  
 Service to which attached, *U.S. Fish Com.*  
 Name and rank of commanding officer, *Wm. B. Stetson*  
*Lieutenant U.S.N.*  
 Name and position of observer, *Edw. A. Mearns*  
*Master U.S.N.*

NOTES RELATING TO STATION NO. 1725

2. The first species, the one seen.  
is a small, dark, and  
faintly colored.

## RECORD OF DREDGING,

## TEMPERATURE AND DENSITY.

Station No. *1901*  
 Date, *Sept 14 1881*  
 Time of day, *9.30* ; of tide, *1/4 quarter Ebb*  
 Locality, *Minefields, Beale Mass*  
 Exact position, *3/4 mile N E of Lobster*  
*view*  
 Depth, *22 fms*  
 Nature of bottom, *fine sand, shells*  
 Dredging instrument used, *7 ft beam trawl*  
 Direction of drift, ; distance, *-*  
 Temperature of air, *72* therm. No.,  
 " of surface water, " "  
 " at depth of fathoms, " "  
 " at bottom, " "  
 Density at surface, *1024.90* temp., *64*  
 " at depth of fathoms, " "  
 " at bottom, " "  
 Number of salinometer, *7052*  
 Barometer reading, *30.15*  
 State of sky, *Cloudy*  
 Direction of wind, *SE* ; force, *1*  
 Rain,  
 Direction of surface current, ; force,  
 " of bottom " ; force,  
 Name of vessel, *U.S.F.C. Fish Hawk*  
 Service to which attached, *U.S.F.*  
 Name and rank of commanding officer, *W. D. Dood*  
*Ensign U.S.N.*  
 Name and position of observer, *Ch. Cleveland*  
*Master U.S.N.*

NOTES RELATING TO STATION NO. 1908

Crabs - Starfish - Lobsters  
Skate - Flounders - Sea Ribbon  
Hermit Crabs, Dead Shells

## RECORD OF DREDGING.

## TEMPERATURE AND DENSITY.

Station No. 1909

Date, Sept 14<sup>th</sup> 1894Time of day, 10:15 AM: of tide, 1<sup>st</sup> quarter Ebb

Locality, Minemsha Bight

Exact position, 1/6 mile N N E from Gun?

Near Lt H's

Depth, 3 fathoms

Nature of bottom, white sandy bottom

Dredging instrument used, 7 ft Beam Trawl

Direction of drift, ; distance,

Temperature of air, 72 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1024.8 temp., 65

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7052

Barometer reading, 30.47

State of sky, Cloudy

Direction of wind, S S E ; force, 1

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, U S F C

Name and rank of commanding officer, W L Good

Ensign U S N

Name and position of observer, C H Cleveland

Mate U S N

NOTES RELATING TO STATION NO. 1909

Flounders - Skates - Crabs - Kelp  
Sea Rabbits - Starfish - Hermit  
Crabs - Young Sea Bass  
Stone Crab

## RECORD OF DREDGING.

## TEMPERATURE AND DENSITY.

Station No. 1910

Date, Sept 14<sup>th</sup> 1894Time of day, 10:50 AM: of tide, 1<sup>st</sup> half Ebb

Locality, Vineyard Sound

Exact position, Abake Pt. E. K. Huntington, L. 123° 10'

Cuttyhunk L. E. S. Head, L. 99° 50'

Depth, 13 1/2 fathoms

Nature of bottom, gr. sand &amp; bk. shells

Dredging instrument used, 7 ft Beam Trawl

Direction of drift, SSW ; distance, 1/4 mile

Temperature of air, 73 therm. No.,

" of surface water,

" at depth of fathoms,

" at bottom,

Density at surface, 1024.8

temp., 65

" at depth of fathoms,

" at bottom,

Number of salinometer, 7052

Barometer reading, 30.44

State of sky, Cloudy

Direction of wind, SSW ; force, 1

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel, Fish Hawk

Service to which attached, U S F C

Name and rank of commanding officer, W L Doad

Ensign USN

Name and position of observer, C H Doad

Mate USN



NOTES RELATING TO STATION NO. 1916

obtained about a bushel of  
materials consisting of dead  
shells - Skates - Crabs - Sand dollars  
Star fish - young Sea Robbins  
Hermit Crabs - Sea Urchins

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1911

Date, Sept 14<sup>th</sup> 1894

Time of day, 12 Noon: of tide, 3/4 Ebb

Locality, Vineyard Sound 113° 30'

Exact position, 40° 00' N. 71° 13' W.

Cuttyhunk Light, 121° 13'

Depth, 14 fathoms

Nature of bottom, Sand, gravel & shells

Dredging instrument used, 7 ft Beam Trawl

Direction of drift, : distance.

Temperature of air, 76 therm. No.,

" of surface water, 64 1/2 "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1024.8 temp., 64 1/2

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7052

Barometer reading, 30.40

State of sky, Cloudy

Direction of wind, SSW; force, 2

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel, Fish Hawk

Service to which attached, U. S. F. C.

Name and rank of commanding officer, W. L. Brad

Ensign U. S. N.

Name and position of observer, J. H. Cleveland

Master U. S. N.

NOTES RELATING TO STATION NO. 1411

Hundreds - Crabs. Hermit Crabs  
Kelp - Sand dollars  
Sea Urchins

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *1912*Date, *Sept 19<sup>th</sup> 1894*Time of day, *2.45 P.M.*; of tide, *3/4 Ebb*Locality, *Buzzards Bay*Exact position, *Point of View, N. 1/2 S. 1/2 E. 1/4 Sec. 36**Wings Neck Pt. & beyond N end of Long 1940 ft*Depth, *3 fathoms*Nature of bottom, *Gr. S. & M. S.*Dredging instrument used, *7 ft B. Trawl*

Direction of drift, : distance.

Temperature of air, *65°*

therm. No.,

" of surface water, *69 1/2*

" at depth of fathoms,

" at bottom,

Density at surface, *1022.6*temp., *69 1/2*

" at depth of fathoms,

" at bottom,

Number of salinometer, *7052*Barometer reading, *29.94*State of sky, *Cloudy*Direction of wind, *E N E* : force, *2*

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel, *"Fish Hawk"*Service to which attached, *U. S. F. C.*Name and rank of commanding officer, *W. H. Brown**Ensign U. S. N.*Name and position of observer, *E. H. (Kearney)**Master U. S. N.*

NOTES RELATING TO STATION NO. 1912

a few pe's yellow sponge  
dead conch shells - young sea urchins  
Dead Escallop Shells

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1913

Date, Sept 19 1894

Time of day, 3.05 PM : of tide, 3/4 Ebb.

Locality, Long Point

Exact position, Bird's to Wings Neck to 124° 26'

Wings Neck to Tangut Head of Mashum 58° 48'

Depth, 4 fathoms + 2 ft

Nature of bottom, hard, S.

Dredging instrument used, 7 ft Beam Trawl

Direction of drift, : distance,

Temperature of air, 66 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1022.6 temp., 69 1/2

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7052

Barometer reading, 29.92

State of sky, Cloudy

Direction of wind, ENE : force, 2

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel, Fish Hawk

Service to which attached, U.S. Fish Com.

Name and rank of commanding officer, W. H. Ladd

Name and position of observer, E. H. Ladd  
Master

NOTES RELATING TO STATION NO. 1913

About a bushel of yellow lupine  
springs a few live Escallops  
Dead Arach & Escallops shells

## RECORD OF DREDGING.

## TEMPERATURE AND DENSITY.

Station No. 1914

Date, Sept 19, 1894

Time of day, 3.30 PM: of tide, 3/4 Ebb

Locality, Buzzards Bay

Exact position, Bird Is. &amp; Wing Neck 41° 27' 58"

Wing Neck &amp; Fanger, Head of Mashomet 55° 27'

Depth, 4 fathoms &amp; 3 ft

Nature of bottom, Grd, S

Dredging instrument used, 7 ft Beam Trawl

Direction of drift, : distance,

Temperature of air, 66 therm. No.,

" of surface water, 69 1/2 "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1022.6 temp., 69 1/2

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7052

Barometer reading, 29.92

State of sky, Cloudy

Direction of wind, ENE; force, 3

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel, Fish Hawk

Service to which attached, U.S.F.C.

Name and rank of commanding officer, W.L. Brown

Ensign U.S.N.

Name and position of observer, B.H. Cleveland

Mate U.S.N.



NOTES RELATING TO STATION NO. 1914

about the double of yellow sand  
sponge, Dead Escallop Shells,  
A few live Escallops and  
Spider Crab.

## RECORD OF DREDGING.

## TEMPERATURE AND DENSITY.

Station No. *1915*  
 Date, *Sept 26<sup>th</sup> 1894*  
 Time of day, *2.10 PM*; of tide, *High Flood*  
 Locality, *Manasquan River*  
 Exact position,  
  
 Depth, *7 fathoms*  
 Nature of bottom, *Sandy bottom*  
 Dredging instrument used, *4 ft beam Trawl*  
 Direction of drift, ; distance,  
 Temperature of air, *54* therm. No.,  
 " of surface water, *64* "  
 " at depth of fathoms, "  
 " at bottom, "  
 Density at surface, *1024.0* temp., *64*  
 " at depth of fathoms, "  
 " at bottom, "  
 Number of salinometer, *7052*  
 Barometer reading, *30.42*  
 State of sky, *Partly Cloudy*  
 Direction of wind, *East*; force, *5*  
 Rain,  
 Direction of surface current, ; force,  
 " of bottom " ; force,  
 Name of vessel, *"Fish Hawk"*  
 Service to which attached, *U S F C*  
 Name and rank of commanding officer, *W L Brad*  
*Ensign USN*  
 Name and position of observer, *C H Clement*  
*Asst Surg*

NOTES RELATING TO STATION NO. 175

Obtained 1/2 bushel of material consisting of Lobsters - Star fish - Reef & yellow lump sponge - dead Clam Shells - Skate fish

## RECORD OF DREDGING.

## TEMPERATURE AND DENSITY.

Station No. *1916*  
 Date, *Sept 28 1894*  
 Time of day, *2 30 PM*; of tide, *1/4 Flood*  
 Locality, *Memphis River*  
 Exact position,  
  
 Depth, *10 fathoms*  
 Nature of bottom, *5 ft m*  
 Dredging instrument used, *7 ft Beam Trawl*  
 Direction of drift, : distance,  
 Temperature of air, *65* therm. No.,  
 " of surface water, *64* "  
 " at depth of fathoms, "  
 " at bottom, "  
 Density at surface, *1024.2* temp., *64*  
 " at depth of fathoms, "  
 " at bottom, "  
 Number of salinometer, *7052*  
 Barometer reading, *30.42*  
 State of sky, *Partly Cloudy*  
 Direction of wind, *East*; force, *5*  
 Rain,  
 Direction of surface current, : force,  
 " of bottom " : force,  
 Name of vessel, *Fish Hawk*  
 Service to which attached, *U.S.N.*  
 Name and rank of commanding officer, *Wm. L. Beane*  
*Ensign U.S.N.*  
 Name and position of observer, *C. H. Chandler*  
*Master*

NOTES RELATING TO STATION NO. 1916

Obtained about 1/2 lb. of  
Intestines (see Station  
List). Flounders 2-3 lb.  
Lake. King Fish, Yellow  
Lumps, Salmon, Starfish  
Young sea. Robin. Puffing  
bird (large), (small),  
(W. C. ...)

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *1917*  
 Date, *Oct 2<sup>d</sup> 1894*  
 Time of day, *7.15 AM* : of tide, *3/4 Flood*  
 Locality, *Chesapeake Bay*  
 Exact position, *Boston Bluff & Plantation*  
*flats & the so Chesapeake Bluff & Cape Charles*  
 Depth, *22 fathoms*  
 Nature of bottom, *S & P. M. S.*  
 Dredging instrument used, *7 ft B Trawl*  
 Direction of drift, ; distance,  
 Temperature of air, *60* therm. No.,  
 " of surface water, *68* "  
 " at depth of fathoms, "  
 " at bottom, "  
 Density at surface, *1017.4* temp., *68*  
 " at depth of fathoms, "  
 " , at bottom, "  
 Number of salinometer, *7052*  
 Barometer reading, *30.30*  
 State of sky, *Clear*  
 Direction of wind, *NE* ; force, *2*  
 Rain,  
 Direction of surface current, ; force,  
 " of bottom " ; force,  
 Name of vessel, *"Fish Hawk"*  
 Service to which attached, *U S F C*  
 Name and rank of commanding officer, *W L B. B. B.*  
*Captain USN*  
 Name and position of observer, *B H Chapman*  
*Chas. B. B.*

NOTES RELATING TO STATION NO. 1917

Obtained about a bushel of  
*Groenlandia* sea grass  
Numerous Wg. Chockers. Starfish  
Cockles. Crabs. Squids.

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *1918*

Date, *Oct 12 1894*

Time of day, *7.45 AM* of tide, *3/4 Flood*

Locality, *Chesapeake Bay*

Exact position, *Barton Bluff & Plantation flats*

*St. H. Co., Chesapeake Light & Dep. Co. at*  
*Cape Charles Va. 20 fathoms*

Nature of bottom, *B. M.*

Dredging instrument used, *7 ft Beam Trawl*

Direction of drift, ; distance,

Temperature of air, *60* therm. No.,

" of surface water, *68* "

" at depth of fathoms, "

" at bottom, "

Density at surface, *1.016.6* temp. *68*

" at depth of fathoms, "

" at bottom, "

Number of salinometer, *7052*

Barometer reading, *30.30*

State of sky, *Clear*

Direction of wind, *NE* ; force, *3*

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, *Fish Hawk*

Service to which attached, *USFCS*

Name and rank of commanding officer, *W. L. Brad*

*Ensign USN*

Name and position of observer, *B. H. Cleveland*

*Matr USN*



NOTES RELATING TO STATION NO. 1918

Obtained about a basket of  
material consisting of Crabs  
Starfish. Brachura, Hermit crabs  
(Numerous), Porcelain yellow string  
sponge and grass. Crustaceans  
1 sea Pigeon

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *1919*  
 Date, *Oct 12 1894*  
 Time of day, *6.45 A.M.* : of tide, *Last 1/2 Flood*  
 Locality, *Chicapaqua Bay*  
 Exact position, *Butter Bluff Plantation*  
*St. Marks, Chrysom St. Marks Depot*  
*at Cape Charles City*  
 Depth, *26 fathoms*  
 Nature of bottom, *Black M.*  
 Dredging instrument used, *7 ft B. Trawl*  
 Direction of drift, : distance.  
 Temperature of air *68* therm. No.,  
 " of surface water, *65* "  
 " at depth of fathoms, "  
 " at bottom, "  
 Density at surface, *1016-3* temp., *65*  
 " at depth of fathoms, "  
 " at bottom, "  
 Number of salinometer, *7002*  
 Barometer reading, *30.33*  
 State of sky, *Clear*  
 Direction of wind, *N E* : force, *3*  
 Rain.  
 Direction of surface current, : force,  
 " of bottom, " : force,  
 Name of vessel, *Fish Hawk*  
 Service to which attached, *U.S.N.*  
 Name and rank of commanding officer, *Wm. B. Hall*  
*Ensign U.S.N.*  
 Name and position of observer, *Lt. H. C. Ireland*  
*Master of the*

NOTES RELATING TO STATION NO. 1420

Obtained about 1/2 bushel of material  
consisting of Crustacean Copepods, Shrimp,  
Sargassum, Green & Red Algae,  
Starfish, Coral, & Sea Pigeon

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *1920*  
 Date, *Oct 12<sup>th</sup> 1894*  
 Time of day, *9.10 a.m.* : of tide, *High water*  
 Locality, *Chesapeake Bay*  
 Exact position, *Battle Bluff & Plantation flats & Sh*  
~~*N. 100*~~ *Chryslin Sh & Dept at Cape*  
~~*Chas City*~~  
 Depth, *21 fathoms*  
 Nature of bottom, *Blk M*  
 Dredging instrument used, *7 ft B Trawl*  
 Direction of drift, : distance,  
 Temperature of air, *68* therm. No.,  
 " of surface water, *66* ..  
 " at depth of fathoms, ..  
 " at bottom, ..  
 Density at surface, *1016.4* temp., *66*  
 " at depth of fathoms, ..  
 " at bottom, ..  
 Number of salinometer, *7052*  
 Barometer reading, *30.30*  
 State of sky, *Clear*  
 Direction of wind, *N E* : force, *3*  
 Rain,  
 Direction of surface current, : force,  
 " of bottom " : force,  
 Name of vessel, *Fish Hawk*  
 Service to which attached, *U S F C*  
 Name and rank of commanding officer, *W L Burt*  
*Ensign U S N*  
 Name and position of observer, *C H Chambers*  
*Mate U S N*

NOTES RELATING TO STATION NO. 1920

obtained about a bucket of material  
consisting of small, broken, broken-  
star fish - *Chrysonotus* - small shells  
with coral attached. The first two  
yellow lumps of sponge.

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *1921*

Date, *Apr 23" 1895*

Time of day, *8.50 A.M.*

Locality, *Chesapeake Bay*

Exact position, *2 1/2 miles S E of Green*

*Micmic's Pt*

Depth, *18 fathoms*

Nature of bottom,

Dredging instrument used,

Direction of drift, : distance,

Temperature of air, *59*

therm. No.,

" of surface water, *53*

" at depth of fathoms,

" at bottom,

Density at surface, *10007*

temp., *53*

" at depth of fathoms,

" at bottom,

Number of salinometer, *7047*

Barometer reading, *29.94*

State of sky, *Clear & hazy over the bay*

Direction of wind, *S* : force, *1*

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel, *"Fish Hawk"*

Service to which attached, *U. S. F. C.*

Name and rank of commanding officer, *Robt. Platt*

Name and position of observer, *Leitch*

*C. H. Merriam*

*Not a*

NOTES RELATING TO STATION NO. 1921

At 10.30 hours in the (Brawl)

The specimens obtained

The Trawl was lowered about 12  
to 15 feet down the surface  
lying flat on the  
bottom of the

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1922

Date, April 23 1895

Time of day, 1035 A.M. : of tide, Flood

Locality, Sheepscot Bay

Exact position, 2 1/2 miles ESE of Sheepscot

Treasure Is. Is.

Depth, 18 fathoms

Nature of bottom,

Dredging instrument used, Trawl  
Trawl 40 ft. x 10 ft. with 1/2 in. mesh

Direction of drift, : distance,

Temperature of air, 62 therm. No.,

" of surface water, 53 "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0007- temp., 53

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7047

Barometer reading, 29.92

State of sky, Clear, hazy over the bay

Direction of wind, S : force, 1

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel, U.S.F.C. Fish Hawk

Service to which attached, U.S.F. Commission

Name and rank of commanding officer, Lieut. Blatch

Lieut. Blatch

Name and position of observer, C. B. Leonard

John H. H.



NOTES RELATING TO STATION NO. 1920

On 11/10/80, and here in the morning  
At 11:30, and here in the morning  
Following the 11/10/80, and here in the morning  
Dead grass, and here in the morning  
Squid. 11/10/80. 11/10/80. 11/10/80.  
Shrimp

## RECORD OF DREDGING.

## TEMPERATURE AND DENSITY.

Station No. 1924

Date, Sept 20, 1895

Time of day, 12.30 PM : of tide, 3/4

Locality, Chesapeake Bay

Exact position, 2 1/2 miles S E by S of Great  
Merrimack River

Depth, 11 fathoms

Nature of bottom, h s

Dredging instrument used, 3' beam trawl  
State as to how & the haul

Direction of drift, : distance,

Temperature of air, 64 therm. No.,

" of surface water, 53 "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.00054 temp., 53

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7047

Barometer reading, 29.92

State of sky, Clear, very little clouds

Direction of wind, N : force, 2

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel, Fish Hawk

Service to which attached, U. S. Fish Comm.

Name and rank of commanding officer, Wm. H. Smith

Name and position of observer, C. H. Chandler

State as to

NOTES RELATING TO STATION NO. 7

At 12:00 P.M. the water was about 12.55  
feet below and there was a  
lot of dead grass and a  
few shrimp. Suspended in the  
water were a few small  
fish.

## RECORD OF DREDGING.

## TEMPERATURE AND DENSITY.

Station No. *1925*  
 Date, *Sept 14 1895*  
 Time of day, *9.25 A.M.*; of tide,  
 Locality, *off Pensacola*  
 Exact position, *Pensacola with it. buoy 2.1.15 dist*  
*Surge down 2.15 at bottom 9.8 2.4 miles*  
*at 10 — at surface 10.2*  
 Depth, *26 fathoms* *at 10.27 fathoms 15.27*  
 Nature of bottom, *Gr S M spe*  
 Dredging instrument used, *7 fth beam trawl*  
 Direction of drift, ; distance,  
 Temperature of air, *94* therm. No.,  
 " of surface water, *86* "  
 " at depth of fathoms, "  
 " at bottom, *78* "  
 Density at surface, *1022.2* temp., *86*  
*10 am* " at depth of fathoms, *1024.4* .. *85*  
 " at bottom, *1026.0* " *78*  
*10 am* " *1026.0* " *77*  
 Number of salinometer, *7552*  
 Barometer reading, *29.84*  
 State of sky, *Clear*  
 Direction of wind, *South* ; force, *1*  
 Rain,  
 Direction of surface current, : force,  
 " of bottom " : force,  
 Name of vessel, *"Fish Hawk"*  
 Service to which attached, *U. S. F. Commission*  
 Name and rank of commanding officer, *Dr Sniff*  
*Lieut & Refu*  
 Name and position of observer, *Chas. H. Henshaw*  
*Chas. Henshaw*

# NOTES RELATING TO STATION NO. 1470

Obtained about a bucket of  
 material consisting of a small  
 octopus, <sup>120</sup> Coral, Sea Scallop  
 Shells - Red Lure sponge  
 a few small Shrimp - young crabs  
 1 Pipe Fish, 1 Sea Robin, 1 Eel fish  
 1 young Squid, *Heterostichus*  
 1 worm tube, *Equilia*, 1 fish  
 1 large sea urchin, 1 sea urchin, 1 sea  
 fish, 1 sand dollar, 1 small octopus  
 about 4 in. diameter  
 The bottom of the section  
 was about 7 inches long  
 & the tentacles about 12 inches  
 in length

## RECORD OF DREDGING.

## TEMPERATURE AND DENSITY.

Station No. *1926*  
 Date, *Sept 14 98*  
 Time of day, *10.25 AM* of tide.  
 Locality, *off Pensacola*  
 Exact position, *Pensacola Bk. bearing N 77 W dist 2.4 miles*  
*Lead down 10.25 at bottom 10.35*  
*Lead up 11.10 surface 11.25*  
 Depth, *29 fathoms*  
 Nature of bottom, *Gr S bk spts*  
 Dredging instrument used, *7 foot Beam Trawl*  
 Direction of drift, ; distance.  
 Temperature of air, *91* therm. No.,  
 " of surface water, *85* "  
 " at depth of fathoms, "  
 " at bottom, *77* "  
 Density at surface, *1022.4* temp., *85*  
 " at depth of fathoms, "  
 " at bottom, *1026.0* " *77*  
 Number of salinometer, *7052*  
 Barometer reading, *29.84*  
 State of sky, *Clear*  
 Direction of wind, *South* ; force, '  
 Rain,  
 Direction of surface current, : force,  
 " of bottom " : force,  
 Name of vessel, *Fish Hawk*  
 Service to which attached, *U. S. Fish Commission*  
 Name and rank of commanding officer, *J. Swift*  
*Ensign U. S. N.*  
 Name and position of observer, *G. H. Moore*  
*Master U. S. N.*

NOTES RELATING TO STATION NO. 1926

Found a small quantity of sea  
but no mollusk life.  
Faint trace of *Tridacna*, Caught in *Scaphopoda*  
after 5/10 in circumference, in  
Red Coral, *Tridacna*, *Scaphopoda*,  
1 bucket of Sponges (containing a few of *Scaphopoda*  
*Scaphopoda* shells) 1 small squid  
1 small black fish, 1 sea slug  
1 sand dollar  
The body of the Octopus now  
about 10 inches long and the  
tentacles about 10 inches long

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *1927*  
 Date, *Sept. 14 1895*  
 Time of day, *11.50 A.M.* : of tide,  
 Locality, *Off Pensacola*  
 Exact position, *Pensacola Lt. Ho. bearing N 10 W 2 miles*  
*bridge down 11.50 at bottom 12 miles*  
*" " 1.05 " surface 1.15*  
 Depth, *23 fathoms*  
 Nature of bottom, *S. S. & sh. spks*  
 Dredging instrument used, *7 ft Beam Trawl*  
 Direction of drift, : distance,  
 Temperature of air, *75* therm. No.,  
 " of surface water, *86* "  
 " at depth of fathoms, "  
 " at bottom, *78* "  
 Density at surface, *1022.2* temp., *86*  
 " at depth of fathoms, "  
 " at bottom, *1026.0* " *78*  
 Number of salinometer, *70.52*  
 Barometer reading, *29.84*  
 State of sky, *Clear*  
 Direction of wind, *South* ; force, *1*  
 Rain,  
 Direction of surface current, : force,  
 " of bottom " : force,  
 Name of vessel, *Fish Hawk*  
 Service to which attached, *U.S.F. Commission*  
 Name and rank of commanding officer, *J. J. May Jr.*  
*Lieut. U.S.N.*  
 Name and position of observer, *C. H. Clarke*  
*Master U.S.N.*



NOTES RELATING TO STATION NO. 1927

Obtained about one bushel  
of material consisting of  
3 Octopus about 6 inches in  
length with tentacles, & about  
10 inches long.

From bucket by Rockaway  
is a lot of dead Crabs &  
Shells, & few small fish  
which are not identified.

2 Sea Eels and a few  
Shrimps

# **RECORD OF DREDGING,** **TEMPERATURE AND DENSITY.**

Station No.

Date,

Time of day, : of tide,

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, : distance,

Temperature of air, therm. No.,

“ of surface water, “

“ at depth of fathoms, “

“ at bottom, “

Density at surface, temp.,

“ at depth of fathoms, “

“ at bottom, “

Number of salinometer,

Barometer reading,

State of sky,

Direction of wind, : force,

Rain,

Direction of surface current, : force,

“ of bottom “ : force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer,

Name and position of observer,

NOTES RELATING TO STATION NO.

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. \_\_\_\_\_  
 Date, \_\_\_\_\_  
 Time of day, \_\_\_\_\_ : of tide, \_\_\_\_\_  
 Locality, \_\_\_\_\_  
 Exact position, \_\_\_\_\_  
 Depth, \_\_\_\_\_  
 Nature of bottom, \_\_\_\_\_  
 Dredging instrument used, \_\_\_\_\_  
 Direction of drift, \_\_\_\_\_ : distance, \_\_\_\_\_  
 Temperature of air, \_\_\_\_\_ therm. No., \_\_\_\_\_  
     "      of surface water, \_\_\_\_\_  
     "      at depth of \_\_\_\_\_ fathoms, \_\_\_\_\_  
     "      at bottom, \_\_\_\_\_  
 Density at surface, \_\_\_\_\_ temp., \_\_\_\_\_  
     "      at depth of \_\_\_\_\_ fathoms, \_\_\_\_\_  
     "      at bottom, \_\_\_\_\_  
 Number of salinometer, \_\_\_\_\_  
 Barometer reading, \_\_\_\_\_  
 State of sky, \_\_\_\_\_  
 Direction of wind, \_\_\_\_\_ ; force, \_\_\_\_\_  
 Rain, \_\_\_\_\_  
 Direction of surface current, \_\_\_\_\_ : force, \_\_\_\_\_  
     "      of bottom " \_\_\_\_\_ : force, \_\_\_\_\_  
 Name of vessel, \_\_\_\_\_  
 Service to which attached, \_\_\_\_\_  
 Name and rank of commanding officer, \_\_\_\_\_  
 Name and position of observer, \_\_\_\_\_

NOTES RELATING TO STATION NO.

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No.

Date.

Time of day, : of tide,

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, : distance,

Temperature of air, therm. No.,

" of surface water, ..

" at depth of fathoms, ..

" at bottom, ..

Density at surface, temp.,

" at depth of fathoms, ..

" at bottom, ..

Number of salinometer,

Barometer reading,

State of sky,

Direction of wind, : force,

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer,

Name and position of observer,

NOTES RELATING TO STATION NO.

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No.  
 Date,  
 Time of day, : of tide,  
 Locality,  
 Exact position,  
  
 Depth,  
 Nature of bottom,  
 Dredging instrument used,  
 Direction of drift, : distance,  
 Temperature of air, therm. No.,  
     " of surface water, "  
     " at depth of fathoms, "  
     " at bottom, "  
 Density at surface, temp.,  
     " at depth of fathoms, "  
     " at bottom, "  
 Number of salinometer,  
 Barometer reading,  
 State of sky,  
 Direction of wind, : force,  
 Rain,  
 Direction of surface current, : force,  
     " of bottom " : force,  
 Name of vessel,  
 Service to which attached,  
 Name and rank of commanding officer,  
  
 Name and position of observer,



NOTES RELATING TO STATION NO.

RECORD OF DREDGING,  
TEMPERATURE AND DENSITY.

Station No.

Date.

Time of day, \_\_\_\_\_ : of tide, \_\_\_\_\_

Locality,

Exact position.

Depth.

Nature of bottom.

Dredging instrument used.

Direction of drift, \_\_\_\_\_ : distance, \_\_\_\_\_

Temperature of air. therm. No.,

“ of surface water. ”

.. at depth of fathoms. ..

at bottom,

Density at surface. temp.,

" at depth of fathoms. "

.. at bottom. ..

Number of salinometer.

Barometer reading.

State of sky,

Direction of wind, \_\_\_\_\_; force, \_\_\_\_\_.

Rain.

Direction of surface current, \_\_\_\_\_; force, \_\_\_\_\_.

" of bottom " : force,

Name of vessel.

Service to which attached.

Name and rank of commanding officer,

Name and position of observer,

NOTES RELATING TO STATION NO.

# **RECORD OF DREDGING,** **TEMPERATURE AND DENSITY.**

Station No.

Date,

Time of day, : of tide,

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, : distance,

Temperature of air, therm. No.,

" of surface water, ..

" at depth of fathoms, ..

" at bottom, ..

Density at surface, temp.,

" at depth of fathoms, ..

" at bottom, ..

Number of salinometer,

Barometer reading,

State of sky,

Direction of wind, ; force,

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer,

Name and position of observer,

NOTES RELATING TO STATION NO.

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide,

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, : distance,

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading,

State of sky,

Direction of wind, ; force,

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer,

Name and position of observer,

NOTES RELATING TO STATION NO.

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, : distance,

Temperature of air, therm. No.,

" of surface water, ..

" at depth of fathoms, ..

" at bottom, ..

Density at surface, temp.,

" at depth of fathoms, ..

" at bottom, ..

Number of salinometer,

Barometer reading,

State of sky,

Direction of wind, ; force,

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer,

Name and position of observer,



NOTES RELATING TO STATION NO.

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide,

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, : distance,

Temperature of air, therm. No.,

" of surface water, ..

" at depth of fathoms, ..

" at bottom, ..

Density at surface, temp.,

" at depth of fathoms, ..

" at bottom, ..

Number of salinometer,

Barometer reading,

State of sky,

Direction of wind, ; force,

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer,

Name and position of observer,

NOTES RELATING TO STATION NO.

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No.

Date.

Time of day, : of tide,

Locality,

Exact position,

Depth.

Nature of bottom.

Dredging instrument used,

Direction of drift, : distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer.

Barometer reading.

State of sky,

Direction of wind, : force,

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel.

Service to which attached.

Name and rank of commanding officer,

Name and position of observer,

NOTES RELATING TO STATION NO.

RECORD OF DREDGING,  
TEMPERATURE AND DENSITY.

Station No. \_\_\_\_\_

Date.

Time of day, \_\_\_\_\_ : of tide, \_\_\_\_\_

Locality.

Exact position.

Depth.

Nature of bottom.

Dredging instrument used.

Direction of drift, \_\_\_\_\_ : distance, \_\_\_\_\_

Temperature of air, therm. No.,

" of surface water. "

“ at depth of fathoms, ”

\*6 at bottom. \*

Density at surface. temp.,

.. at depth of fathoms. ..

\* at bottom. ..

Number of salinometer.

Barometer reading.

State of sky.

Direction of wind, \_\_\_\_\_ : force, \_\_\_\_\_.

Rain.

Direction of surface current,  $\mathbf{J}_s$  : force,

$$z = \text{depth from top of bottom } z = 0; \text{ force}_z$$

Name of vessel.

Service to which attached.

Name and rank of commanding officer.

Name and position of observer.

NOTES RELATING TO STATION NO.

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide,

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, : distance,

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading,

State of sky,

Direction of wind, ; force,

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer,

Name and position of observer,



NOTES RELATING TO STATION NO.

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide,

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, : distance,

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading,

State of sky,

Direction of wind, : force,

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer,

Name and position of observer,

NOTES RELATING TO STATION NO.

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide,

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, : distance,

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading,

State of sky.

Direction of wind, : force,

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer,

Name and position of observer,

NOTES RELATING TO STATION NO.

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide,

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, : distance,

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading,

State of sky,

Direction of wind, ; force,

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer,

Name and position of observer,

NOTES RELATING TO STATION NO.

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

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Direction of drift, : distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer.

Barometer reading.

State of sky,

Direction of wind, : force,

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel.

Service to which attached.

Name and rank of commanding officer,

Name and position of observer,



NOTES RELATING TO STATION NO.

RECORD OF DREDGING,  
TEMPERATURE AND DENSITY.

Station No. \_\_\_\_\_

Date.

Time of day, \_\_\_\_\_ : of tide, \_\_\_\_\_

Locality,

Exact position,

Depth.

Nature of bottom.

Dredging instrument used.

Direction of drift, \_\_\_\_\_; distance, \_\_\_\_\_.

Temperature of air, therm. No.,

of surface water, ..

.. at depth of fathoms. ..

at bottom.

Density at surface. temp.,

" at depth of fathoms, ..

.. at bottom. ..

Number of salinometer.

Barometer reading.

State of sky,

Direction of wind, \_\_\_\_\_; force, \_\_\_\_\_.

Rain,

Direction of surface current, \_\_\_\_\_; force, \_\_\_\_\_.

$$z'' = \frac{1}{\rho} \left( \frac{\partial^2 z}{\partial x^2} + \frac{\partial^2 z}{\partial y^2} \right) : \text{force},$$

Name of vessel.

Service to which attached.

Name and rank of commanding officer,

Name and position of observer.

NOTES RELATING TO STATION NO.

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No.  
 Date.  
 Time of day, : of tide,  
 Locality,  
 Exact position,  
  
 Depth,  
 Nature of bottom,  
 Dredging instrument used,  
 Direction of drift, ; distance,  
 Temperature of air, therm. No.,  
     " of surface water, "  
     " at depth of fathoms, "  
     " at bottom, "  
 Density at surface, temp.,  
     " at depth of fathoms, "  
     " at bottom, "  
 Number of salinometer,  
 Barometer reading,  
 State of sky,  
 Direction of wind, ; force,  
 Rain,  
 Direction of surface current, ; force,  
     " of bottom " ; force,  
 Name of vessel,  
 Service to which attached,  
 Name and rank of commanding officer,  
  
 Name and position of observer,

NOTES RELATING TO STATION NO. \_\_\_\_\_

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide,

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, : distance,

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading,

State of sky,

Direction of wind, : force,

Rain,

Direction of surface current, : force,

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Name of vessel,

Service to which attached,

Name and rank of commanding officer,

Name and position of observer,

NOTES RELATING TO STATION NO. \_\_\_\_\_